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Your Name (First M. Last)

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Response to Question 1:

Net Present Value is one of the capital budgeting methods used to estimate the potential projects that can be profitable to invest in. The analysis of Net Present Value is based on the cash flows, and it makes this method very accurate because it considers the time variables along with risks. In this method, the cash flow that is expected at certain time periods is discounted at a certain rate ("Net Present Value - NPV," 2019). The present value a cash flow is having is compared with the initial investments. The results of that difference are positive then the project gets accepted, however, it gets rejected. The positive of this method is that it uses the concept of time value of money and focuses on increasing the profitability of investors. It is calculated by subtracting the present value of costs from the present value of benefits.

Response to Question 2:

As suggested by its name, this method is used to identify the time period in which the proposal will generate cash flow which will recover the initial investment. This method emphasizes the cash flows and the project's economic life and also the investment that is made in that project (Brealey, 1995). This method is helpful in selecting the project based on its earning capacity. It has simple calculations that are used to decide whether the project should be selected or rejected. However, this method ignores the impact of the time value of money and the other aspects of profitability. The acceptance benchmark for this method is that the project is desirable whose payback period is shorter and returns the initial investment as early as possible. However, returns are also evaluated in some cases.

Response to Question 3:

The internal rate of return (IRR) can be defined as the rate at which net present value of the investment is equal to zero. This is another method employed in capital budgeting to estimate the desirability of a project. In this technique, the discounted cash inflow and cash outflow are equal. It also considers the concept of the time value of money. It strives to reach an interest rate where finances that are invested in the project can be repaid out of cash inflows (Kelleher, 2004). However, it is not an easy task to calculate the international rate of return. This method is an internal rate method because it only focuses on the outlay and proceeds linked with the project and outside the investment, no rate is determined. If IRR is greater than the cost than the project is accepted. Otherwise, it is rejected. The project is also profitable if IRR is higher than the weighted average cost of capital.

Response to Question 4:

The modified internal rate of return (MIRR) is another capital budgeting technique, which assumes that all the positive cash flows are invested again at the firm’s cost of capital. In addition, the initial outlay is refinanced at its financing cost. The internal rate of return assumes that cash flows from a certain project are invested again at IRR ("Modified Internal Rate Of Return - MIRR," 2019). The MIRR is focused on accurately reflecting profitability and cost of the project. To calculate MIRR, it is assumed that the positive cash flows are going to be reinvested. It is helpful because it ranks the projects of unequal size, however; it gets hard to calculate the MIRR. Furthermore, it gives a more realistic evaluation of a project. It is more precise than IRR due to the fact that it determines the true rate of return of a project.

Solutions to Problems

Response to Problem 1:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| time | 0 | 1 | 2 | 3 | 4 |
| cash flow | $12000 | $2360 | $4390 | $1520 | $3300 |

NPV = -12000+2360\*1.12+4390\*1.12^2+1520\*1.12^3+2200\*1.12^4

NPV= -3214.06

The project should be rejected because the NPV is lesser than zero.

Response to Problem 2:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| time | 0 | 1 | 2 | 3 | 4 | 5 |
| cash flow | $12000 | $2360 | $4390 | $1520 | $3300 | $1250 |

IRR= cash outflow / cash inflow

IRR = 12000/2100

IRR = 5.71

IRR is approx. 7% using annuity chart

MIRR = ^ 5 the square root of 10500/12000- 1

MIRR = 3.14 %

The project should not be accepted based on the values of IRR and MIRR because it is less than the original capital cost of the project.

# References

Brealey, R. M. (1995). *Fundamentals of Corporate Finance (p. 69).* New York.: McGraw-Hil.

Kelleher, J. C. (2004). Internal rate of return: A cautionary tale. *The McKinsey Quarterly, 20, 2004.*

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